

WE CLAIM:

1. A metal sterilization container (100, 200) used for sterilizing instruments placed therein and surrounded by a gas plasma sterilizing medium, said container (100, 200) comprising:
 - 5 an aluminum lid (102, 226) having a first set of vent holes (114, 202 and 204) therein;
 - an aluminum bottom (104) attachable to said lid (102, 226), said bottom (104) having sidewalls (106) and a base (108);
 - a second set of vent holes (116) located in said base (108) of said bottom
 - 10 (104);
 - a filter medium (124, 206, 212), permeable to the flow of gas plasma but inhibiting dust and other airborne particles and microorganisms, associated with each of said sets of vent holes (114, 116, 202 and 204); and
 - an oxide film covering said aluminum lid (102, 226) and said aluminum
 - 15 bottom (104) of a thickness of from 0.2 mils (0.0002 inches) to 0.3 mils (0.0003 inches).
- wherein the gas plasma sterilizing medium passes through said first set of vent holes (114, 202 and 204) and filter medium, around the inside of said container (100, 200) and exits through said second (116) set of vent holes and filter medium.
- 20 2. The container of claim 1 wherein the aluminum is 6061-TG.
3. The container of claim 1 further comprising a third set of vent holes (118) located in said base (108) of said bottom (104).
4. The container of claim 3 wherein said first set of vent holes (114, 202 and 204) and said second (116) and said third (118) set of vent holes are offset in a
- 25 predetermined direction relative to each other whereby the gas plasma sterilizing medium may pass through said first set of vent holes (114, 202 and 204) through said container (100, 200) and be forced to move in a direction different than said predetermined direction to pass through said second (116) and said third (118) set of

vent holes thereby creating a turbulent flow of said gas plasma within said container (100, 200), and

wherein said oxide film covering is of a thickness no less than 0.2 mils (0.0002 inches).

5 5. The container of claim 4 wherein said oxide film covering is of a thickness no greater than 0.3 mils (0.0003 inches).

6. The container of claim 5 wherein said aluminum is 6061 T-6.

7. The container of claim 6 wherein said gas plasma has an electric field effect.

10 8.. The apparatus of claim 1 further comprising:
a fourth set of vent holes (204) located in said lid (226), and
wherein said lid (226) has a minor dimension center line (226) and said first (202) and fourth (204) set of vent holes are located on opposite sides of said minor dimension center line (226).

15 9. The apparatus of claim 1 wherein said gas plasma has an electric field effect.

10. A system for sterilizing sterilizable items in a container with a gas plasma, said system comprising:

means for introducing a gas plasma (160, 162);
20 an aluminum lid (102, 226) having a first set of vent holes (114, 202 and 204) located therein;

an aluminum bottom (104) attachable to said lid (102, 226), said bottom (104) further including a base (108) having a center line (120) through its minor planar dimension;

25 a second (116) and third (118) set of vent holes located on opposite sides of said minor dimension center line (120) of said base (108);

filter means (124, 206), permeable to the flow of gas plasma but inhibiting dust and other airborne particles and microorganisms, located adjacent to said sets (114, 202, 204, 116, 118) of vent holes,

wherein said gas plasma passes through said first set (114, 202 and 204) of vent holes and said filter means (124, 206), comes into contact with said sterilizable items, and exits through said second (116) and third (118) sets of vent holes and said filter means (124, 206), and

wherein said metal lid (102, 226) and said metal bottom (104) are electrically insulated from one another.

10 11. The system of claim 10 further comprising:

a fourth set of vent holes (204) located in said lid (226), and,

wherein said lid (226) has a minor dimension center line (226) and said first (202) and fourth (204) set of vent holes are located on opposite sides of said minor dimension center line (226).

15 12. The system of claim 11 wherein said gas plasma has an electric field effect.

13. The system of claim 12 wherein said aluminum lid (102, 226) and said aluminum bottom (104) are electrically insulated from one another.

14. The system of claim 13 wherein said insulation is formed by said oxide
20 film covering said aluminum lid (102, 226) and said aluminum bottom (104).

15. The system according to claim 14 wherein said oxide film covering is of a thickness no less than 0.2 mils (0.0002 inches).

16. The system according to claim 15 wherein said oxide film covering is of a thickness no greater than 0.3 mils (0.0003 inches).

25 17. The system according to Claim 16 wherein said aluminum is 6061-TG.